NMT532 Average Temperature Sensors

Intrinsically safe temperature measurement for inventory control and custody transfer tank gauging applications

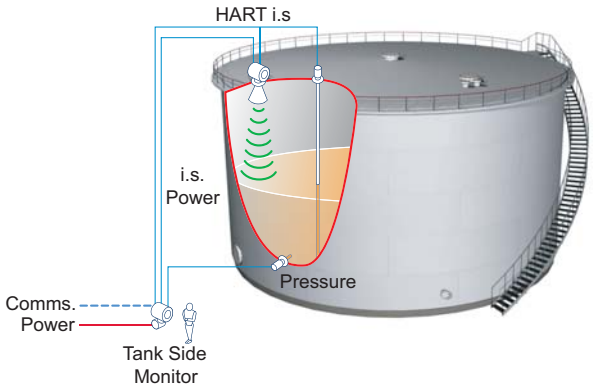
Highlights

- Continuous measurement of average liquid and /or average vapor temperature - Temperature profile throughout the tank is available by reading the position and temperature of each element
- Measurements based on API (American Petroleum Institute) Manual of Petroleum Measurement Standard, Chapter 7
- Easy Configuration using Varec's 2920 FTT (with I.S. HART option), NMR81/84 Radar Tank Gauges, NMS80/81 Proservo Tank Gauges, NRF81 Tank Side Monitor, or 4590 Tank Side Monitor
- Variety of process connections and cable entries available to meet worldwide classifications
- FM, ATEX, IEC Ex, and NEPSI Approved for use in hazardous areas

Applications

The NMT532 Average Temperature Sensor and Converter (ATC) provides 2-6 resistance elements (Pt100), which have a fixed interval (2 m or 3 m) that measure the average product temperature in bulk liquid storage tanks. The measured value is converted into a HART® compatible output for use in temperature compensated volumetric calculations.

They can be combined with various HART compatible devices and tank sensors, such as Varec's 2920 FTT (with I.S. HART option), NMR81/84, NMS80/81, NRF81, FMR5x and FMR53x Radar Tank Gauges, as well as the 4590 Tank Side Monitor.



Typical Tank Gauging System Diagram

Product Options

Approvals

- FM, ATEX, and IEC EX

Process Connection

- NPS 2 Cl.150 RF, 304 flange ASME B16.5
- DN50 PN10 B1, 304 flange EN1092-1 (DIN2527 C)

Number of Elements

- 2 through 6 elements, lengths from 2500 mm to 18500 mm

Installation Options

- Anchor weight
- Tension wire

Cable Entry

- Thread NPT1/2
- Thread M20

Note: Please complete an Application Data Sheet for this equipment to facilitate proper selection of options for your unique application. Contact your Varec Sale Representative for more information.

NMT532 ATC Technical Specifications

Functional

Number of elements	2 - 6 points, fixed interval or 2 to 3 meters
Measuring range	-20... + 100 °C, -4... +212 °F (standard)
Accuracy of conversion	±0.15 °C (±0.27 °F), or better Based on IEC 60751 class A standard
Output Communication	2-wire, HART multi drop

Physical

Material Elements	Elements : Class A Pt100, IEC PUB 751 1995 Housing : Aluminium diecast (IP65) Temp probe : SUS316 flexible tube (IP68) Flange: SUS304
Flexible tube minimum installation height	400 mm from tank bottom

Power

Power supply	DC16-30V (via HART line from host gauge)
Current consumption	Average 6.0 mA constantly.

Environmental

Ambient temperature	-40 °F and +185 °F (-40 °C and +85 °C) Converter (housing)
Climate class	DIN EN 60068-2-38 (test Z/AD)

Certifications and Approval

ATEX II 1/2 G Ex ia IIB T4-T6 Ga/Gb
IEC Ex ia IIB T4-T6 Ga/Gb
FM C/US IS Cl. I, Div. 1, Gr. C, D, T6, T4; IS Cl. I, Zone 0, AEx ia IIB, T6, T4; NI Cl. I, Div. 2, Gr. C, D, T6, T4

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